



CARIBBEAN CURRENTS

Volume 5, Number 1

January 1997

EPA/220/N-97-001

Welcome..

...to **CARIBBEAN CURRENTS**, Volume Five, Number One. This newsletter is edited by INFOTERRA/USA in its capacity as the Regional Service Centre (RSC) for INFOTERRA National Focal Points (NFPs) in the English and French-speaking Caribbean. Although the **CURRENTS** is assembled at INFOTERRA/USA, the content belongs to you, the readers. You are encouraged to send in any questions, comments, problems, or interesting issues relevant to the Region for inclusion in the **CURRENTS**. Please see the Guidelines for Contributions on page 4 for more information.

Each issue will feature a Directory of NFPs in the Region so that anyone with international environmental questions can contact their nearest resource. Please feel free to contact one another as well as your RSC for assistance or materials.

Please don't hesitate to share **CARIBBEAN CURRENTS** with your friends and colleagues, and to make copies as needed. The Currents should serve as an informational forum for anyone who lives, works, or is involved in environmental issues in the English and French-speaking Caribbean Region.

CORAL REEFS

This issue's topic is coral reefs. Coral reefs are a valuable resource, for food, tourism, coastal protection, and biodiversity in the Caribbean. Unfortunately, the world's coral reefs are declining and changing in composition. The reasons that coral reefs change their equilibrium are varied and complex, and include destructive fishing practices, diminished water quality and elevated water surface temperature. Scientists around the world are studying this phenomenon.

The next issue of **CARIBBEAN CURRENTS** will look at eco-tourism. As travellers explore the natural attractions of the developing world, they may contribute to "sustainable development," which means development that "meets the needs of the present without compromising the ability of future generations to meet theirs" (1987 Brundtland Commission). Or, tourism can damage the natural ecology.

If you have any comments on this topic, or would like to contribute a short article or have a resources guide to share, please submit your contribution following the guidelines on page 4. Please feel free to fax, write to, or call the RSC with any questions or comments you have. Share information you have and we will include it in the next or a future issue of **CURRENTS**. Thank you for your assistance.

CORAL REEFS

Recognizing the Significance of Biodiversity

By Ken Potts, E.P.A., Oceans and Coastal Protection Division

The interaction between humans and coral reef systems has a long history. Reef fisheries have been an important food source. The reef tracts and associated communities of mangroves and seagrasses protect shorelines from erosion, by reducing wave energy. Reefs also provide the sands for beaches as they breakdown. Corals have provided building materials for homes. Corals have even served as currency. However, current interactions have placed increased pressure upon these ecosystems. We are witnessing the declining health and loss of these valuable ecosystems. These impacts are especially evident on near-shore reefs which are exposed to population centers. Conservation of these biologically rich and valuable areas calls for an increased awareness of management; one that is based upon public education and sustainable use techniques that originate at the community level.

Many Caribbean reefs, as well as reefs worldwide, are under increasing stress. The links between human activity and the health of coastal waters are well documented. Overfishing and increased sedimentation from poor land use management practices, combined with pollutant loads from a variety of sources have had dramatic impacts on some reef tracts. Some of the more beautiful and accessible reef sites have been damaged by recreational users. The physical contact from inexperienced divers, boats and anchors, leave long term impacts which are slow to recover, especially in the presence of other stressors.

The cumulative effect from combined stress leads to an overall decrease in species richness. Species richness, or the diversity of plants and animals, provide a reservoir to draw on and repair damage. As the diversity of plants and animals decrease, the ability of the reef to recover from an impact, natural or anthropogenic, also declines.

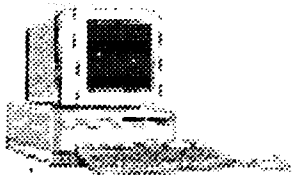
The importance of biological diversity has received increased attention over the last several years. In 1992, the United Nations Conference on Environment and Development identified coral reefs and the associated communities of mangroves and seagrasses as areas of high biodiversity which should be accorded special protection. It is significant to note that the majority of early ratifiers to this convention were small island states.

The International Coral Reef Initiative (ICRI) evolved from the UN conference and has focused global attention on the need for conservation and sustainable use of coral reefs and related ecosystems. An ICRI workshop was held on St. Croix, U.S. Virgin Islands, on May 24-25, 1995, to identify and facilitate coral reef management priorities.

The establishment of marine sanctuaries and Marine Protected Areas (MPA's) has been an important step in ecosystem management. There are numerous examples of established MPA's, throughout the Caribbean. Some of them also include a terrestrial component, eg. National Park Cabrits (Dominica) or Soufriere Marine Management Area (St. Lucia). Healthy coastal waters are usually associated with healthy coastal lands. The proposed Port Antonio Marine Park, in Jamaica is an excellent example of the use of fishery reserves to establish breeding stocks directed toward sustainable fisheries. The Florida Keys National Marine Sanctuary achieves a balance between economic growth and protection of the marine environment. However, it should be noted that some two-thirds of these MPA's do not meet the objectives for which they were established.

Coral reef ecosystems are vital centers of biological diversity. It is imperative that we develop effective management approaches that are scientifically based, that have community support and that emphasize ecosystem sustainability. The decline of Caribbean corals will have tremendous social and economic impacts on communities through loss of food resources. Even larger effects on the lucrative tourism and fishing industries can be expected, unless effective coastal zone management practices are implemented; these entail the development of sustainable fisheries, the minimization of pollutant loads, and the proper management and support of marine protected areas. Effective coastal zone management is needed to protect these important resources.

The U.S. EPA is drafting a framework document for local managers directed toward a watershed protection for coral ecosystems. This document will be available to community planners of island nations through EPA's Oceans and Coastal Protection Division, Mail Code 4504F, 401 M Street S.W., Washington, DC 20460, Ken Potts, telephone: (202) 260-7893, FAX: (202) 260-9920



INTERNET SITES ON CORAL REEFS

A few of many sources of electronic information on coral reefs.

Coral Reef Protection—U.S. Environmental Protection Agency, Office of Water

<http://www.epa.gov/owow/oceans/coral>

Features information on EPA's activities in coral conservation, and a link to the International Coral Reef Initiative ftp site, with access to a workshop summary that was held in May, 1995. In addition, there are links to the EPA Office of Water.

Caribbean Coastal Zone Management Bibliography—Island Resources Foundation

<http://www.irf.org>

A list of references for coastal zone policy makers, planners and managers that reflect issues and practices in the Wider Caribbean. The site also features a partial library catalog of island-specific environmental documents, currently available on diskette, with future Internet access planned.

Coral Health and Monitoring Program—Atlantic Oceanographic and Meteorological Laboratory National Oceanic and Atmospheric Administration

<http://coral.aoml.noaa.gov>

This site features a wealth of information, including an International Coral Reef Initiative chronology, coral health related literature abstracts, an online coral researchers directory, links to other coral related home pages, and NODC oceanographic data from selected coral reef areas.

Coral Forest—San Francisco, CA

<http://www.blacktop.com/coralforest>

Coral Forest is a non-profit organization involved in protecting coral reef systems through education and action. The page is geared towards the general public, but features "Coral Reefs", a directory information on coral reefs and related environmental groups.

Coral Reef Alliance—Berkeley, CA

<http://www.coral.org>

This non-profit organization focuses on educating divers and the public on the coral reef destruction and conservation. Features a directory of non-profit organizations, research institutes, and businesses involved in reef conservation.

Coral Reefs and Mangroves: Modelling and Management—Australian Institute of Marine Science

<http://ibm590.aims.gov.au>

This site describes a three-year study sponsored by the Australian Institute of Marine Science and the IBM International Foundation. Its main objective was to improve the management of coral reef and mangrove habitats. There are links to other related web sites, as well access to publications on work completed during the projects - some of which are full text.

World Conservation Monitoring Center—Reefbase

<http://www.wcmc.org.uk/data/database/reefbase.html>

Features Reefbase, a global database released July, 1996, that provides information on management status, ecological zonation, fisheries and other human uses of reefs for about 6000 coral reefs. Also tells who to contact for more information.

Conferences on Coral Reefs



April 3-6, 1997-- *Third International Ocean Pollution Symposium* - Harbor Branch Oceanographic Institution, Fort Pierce, Florida. Contact: Susan Costilow, Conference Coordinator, J. Steward Johnson Marine Education and Conference Center, Harbor Branch Oceanographic Institution, 5600 U.S. 1 North, Fort Pierce, FL 34946, Fax: 407-465-5743.

July 13-19, 1997-- *8th Pacific Science Association (PSA) and 1997 Annual Meeting of the International Society for Reef Studies*- Suva Fiji. This joint symposium is one of the major scientific events during the International Year of the Reef. Contact: VIII Pacific Science Association Inter-Congress Secretariat, School of Pure and Applied Sciences, The University of the South Pacific, P.O. Box 1168, Suva, Fiji Islands, E-Mail: psa@usp.ac.fj (best means of communication), Fax: (679) 314007, Web site: www.usp.ac.fj/~psa

July 20-26, 1997-- *Coastal Zone 97* - Boston Park Plaza Hotel, Boston MA The 10th in a series of biennial international conferences on coastal and ocean management. Contact: Mr. Gary Magnuson, NOAA, National Ocean Service, 1305 East West Hwy N/EA, Silver Spring, MD 20910, Fax: (301) 713-4263, E-mail: gnmagnuson@ocean.nos.noaa.gov

September 22-26, 1997-- *Latin American Congress on Marine Sciences* - San Paulo, Brazil. Contact: VII COLACMAR Organizing Committee, Silvia Helena de Mello, Instituto Oceanografico da Universidade de Sao Paulo, Praca do Oceanografico, 191 Cidade Universitaria, Butanta 05508-900, San Paulo, SP Brazil.

Year 2000-- *9th International Coral Reef Symposium*-Bali, Indonesia

THE INTERNATIONAL YEAR OF THE REEF

1997 is The International Year of the Reef (IYOR). Scientists and environmental groups will take on IYOR activities (<http://coral.cca.edu/IYOR/>): (1) planning programs of public education and outreach, (2) assessing the conditions of reefs worldwide, (3) collaborating with governments to develop/implement plans for the sustainable use of reef resources.

Among many planned exhibits: the Smithsonian Tropical Research Institute's bilingual traveling exhibit: "Nuestros Arrecifes/Unidos por el Caribe; Our Reefs/Caribbean Connections." It will be displayed the first three months of 1997 at Miami International Airport, Concourse E. In April, it will begin travelling throughout Central America and the Caribbean.

For more information, contact either: Public Aware Committee, Stephen Colwell, The Coral Reef Alliance, 64 Shattuck Square, Suite 220, Berkeley, CA 94704, tel: (510) 848-0110, fax: (510) 848-3720, e-mail: IYOR1997@aol.com; or Scientific Program, Robert Ginsburg, Univ. of Miami, RSMAS, 4600 Rickenbacker Cswy, Miami, FL 33149, tel: (305) 361-4875, fax: (305) 361-4094, e-mail: rginsburg@rsmas.miami.edu

Guidelines for Contributions to CARIBBEAN CURRENTS

Any organization or individual operating or involved in the English and French-speaking Caribbean Region is welcome to contribute to the newsletter. Contributions should be addressed to:

Caribbean Currents Coordinator
INFOTERRA/USA
U.S. Environmental Protection Agency
Headquarters Library, 3404
401 M Street, S.W.
Washington, D.C. 20460
UNITED STATES

Telephone: (202) 260-5917; Fax: (202) 260-3923; E-mail: library-infoterra@cpamail.epa.gov

Please note that submissions should meet the following criteria:

- They should be relevant to environmental issues
- They must be of interest to or directly involve the Region
- They must not endorse or recommend any product or commercial service, explicitly or implicitly
- They must be brief--under 250 words; Bulletin Board requests should be under 100 words
- They must be received by the posted deadline (see below)

Please feel free to contact the *CARIBBEAN CURRENTS* coordinator if you are interested in submitting a longer article. You should contact the coordinator to discuss your topic and any size or content restrictions beforehand. Be aware that once your article is submitted, it is subject to editing as needed. Final decisions on editing and inclusion of any contributions are left to the INFOTERRA/USA Manager. Please contact INFOTERRA/USA using the address above to contribute any comments, questions, problems, or ideas.

DEADLINE FOR CONTRIBUTIONS TO Vol. 5, No. 2: March 10, 1997

Welcome to The *CARIBBEAN CURRENTS*

Bulletin Board

Each issue, we will publish questions or concerns of interest to CURRENTS readers. Anyone who has materials or information that they are seeking or that they feel will be helpful should feel free to contribute. We will post queries and offerings of general interest on the Bulletin Board. You may respond by contacting the reader who has placed the item, or the RSC.

Bulletin Board



DOCUMENTS AVAILABLE

INFOTERRA/USA has free copies of the following publications available.

If you would like copies of any of these documents, please let us know.

- Office of Ground Water and Drinking Water Publications (catalog) June 1996
- Catalog of Hazardous and Solid Waste Publications, September 1996
- U.S. and Mexico Sponsored International Workshop on Phasing Lead out of Gasoline, Proceedings, March 14-15, 1995

To request copies of these documents, just write to INFOTERRA/USA using the contact information on page 6.



Information Needed on Your Country

INFOTERRA/USA receives many requests for information on countries around the world, including the Caribbean. We collect publications about environmental protection in various jurisdictions, organizing them together geographically, in our "Country Boxes." We would like to update our collection with current materials for the benefit of researchers and visitors to INFOTERRA/USA. Any environmental information, regulatory or educational guides you can provide would be greatly appreciated.

Please contact INFOTERRA/USA using the information on page 6 if you can provide any assistance. Thank you for your support!

Send your Bulletins to the RSC for publication in the next issue. See the Guidelines on page 4 for information on submitting items.

About the NFP Directory

This directory reflects changes and additions to the INFOTERRA Directory of National Focal Points distributed by INFOTERRA/PAC, dated January 1997. Please check this information to verify that it is correct and up-to-date. If you have any changes or corrections, please notify the RSC as soon as possible. We will be happy to relay the information to the PAC.

NFP DIRECTORY

Mrs. Candia Williams
Conservation Officer II
Ministry of Tourism, Culture, and Environment
Queen Elizabeth Highway
St. John's
ANTIGUA, WEST INDIES
Telephone: (809) 462-4625 FAX: (809) 462-2836

Mrs. Lynn Holowesko
The Bahamas Environment, Science & Technology
Commission
Office of the Prime Minister
P.O. Box CB 10980
Nassau
THE BAHAMAS
Telephone: (809) 327-4691 FAX: (809) 327-4626

Mr. Lionel Moe
Permanent Secretary (Environment), Ministry of Tourism
International Transport and the Environment
Sir, Frank Walcott Building, Culloden Road
St. Michael
BARBADOS
Telephone: (809) 431-7680 FAX: (809) 437-8859

Jaime Jeffery Villanueva
Fisheries Department, Ministry of Agriculture and
Fisheries
Princess Margaret Drive, P.O. Box 148
Belize City
BELIZE, CENTRAL AMERICA
Telephone: 501-2-44552 FAX: 501-2-32983

Mr. Ashton Lugay
Forestry and Wildlife Division
Ministry of Agriculture, Botanical Gardens
Roseau
DOMINICA, WEST INDIES
Telephone: (809) 448-2401, ext. 417 FAX: (809) 448-7999

Mr. Bhoonath Birbal
Institute of Applied Science & Technology
Research Assistant, Information Unit
P.O. Box 101050, University Campus, Turkeyen
Greater Georgetown
GUYANA
Telephone: (592-22) 4213/4215/4218 FAX: 592-22-4229

M. Dalberg Claude
Ministere de l'Agriculture et des Ressources
Naturelles et du Developpement Rural
P.O. Box 1441
Port-au-Prince
HAITI
Telephone: 509-1-21867 FAX: 509-1-23599

Ms. Yolanda N. Mittoo
Natural Resources Conservation Authority
53 1/2 Molyneux Road
P.O. Box 305
Kingston 10
JAMAICA, WEST INDIES
Telephone: (809) 923-5155/5125 FAX: (809) 923-5070
E-mail: nrca@igc.apc.org

Mr. Leonard Huggins
Environmental and Development Officer, Planning
Unit
Charlestown, Nevis
ST. KITTS AND NEVIS
Telephone: (809) 469-5521 FAX: (809) 469-5485

Mrs. Vanesta Moses-Felix
Government Documentalist
Ministry of Planning, Development and Environment
National Documentation Center
P.O. Box 709
Castries
ST. LUCIA, WEST INDIES
Telephone: (809) 452-2611 FAX: (809) 452-2506
E-mail: LCDOC@ISIS.ORG.LC

Regional Service Centre (RSC):

Emma J. McNamara
INFOTERRA/USA
U.S. Environmental Protection Agency
Headquarters Library, 3404
401 M Street, S. W.
Washington, D. C. 20460
UNITED STATES
Telephone: (202) 260-5917 FAX: (202) 260-3923
E-mail: library-infoterra@epamail.epa.gov